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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,507	01/21/2004	Kenji Tochigi	2004-0079A	1477
513	7590	02/23/2005	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N. W. SUITE 800 WASHINGTON, DC 20006-1021			JARRETT, RYAN A	
			ART UNIT	PAPER NUMBER
			2125	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/760,507

Applicant(s)

TOCHIGI ET AL.

Examiner

Ryan A. Jarrett

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9,10,13 and 16-25 is/are rejected.
- 7) ☒ Claim(s) 11,12,14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant argues: "The use of the moving length over time corresponds essentially to the travel speed of the material. The measurement of the travel speed of the material can be obtained by simply using one encoder, without printing register marks on the material. Thus, this aspect of the invention clearly distinguishes over Nordgren."

However, Examiner respectfully submits that it is not clear exactly what features of the instant claims the Applicant alleges that Nordgren fails to teach. In other words, it is not clear how the above argument relates to the actual claim language. The fact that Nordgren uses register marks and two rotary position sensors is not relevant to the claim language at hand.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9, 10, 13, 16, 20-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nordgren U.S. Patent No. 5,813,587. Nordgren discloses:

9. A feedback controlled tension applying system, comprising: a material processing device operable to process a material in continuous sheet form while applying a tension to the material (e.g., col. 2 lines 53-55); a tension applying device operable to apply tension to the material (e.g., col. 3 lines 63-64); a measuring device operable to measure a moving length amount of the material over time (e.g., col. 2 line 60 – col. 3 line 19); and a control device operable to feedback-control the tension applying device (e.g., col. 3 line 65 – col. 4 line 10) based on a measurement result of said measuring device so that said tension applying device increases the tension applied to the material when the moving length amount of the material over time exceeds a set value that has been set in advance and said tension applying device decreases the tension applied to the material when the moving length amount of the material over time falls below the set value (e.g., col. 3 lines 29-39, col. 4 lines 17-28).

10. The system of claim 9, wherein said measuring device comprises: a measuring roll that rotates in contact with the material; and an encoder that is operable to detect an amount regarding a rotation angle of said measuring roll; wherein said measuring device is operable to measure the moving length amount of the material over time based on the amount regarding the rotation angle of said measuring roll detected by said encoder (e.g., col. 2 line 60 – col. 3 line 19).

13. The system of claim 10, wherein said material processing device is operable to process the material in a longitudinal direction of the material (e.g., claims 1-2).

16. The system of claim 9, wherein said material processing device is operable to process the material in a longitudinal direction of the material (e.g., claims 1-2).

20. The system of claim 9, wherein said measuring device (e.g., Fig. 1 #30, col. 3 lines 63-65, EN: encoder located upstream at unwind end) is located at a position along a path of movement of the material that is downstream of said tension applying device (e.g., Fig. 1 #30, col. 4 lines 1-10, EN: tensioner located upstream at unwind end) and upstream of said material processing device (e.g., Fig. 1 #12, EN: In Fig. 1, the processing flow in the laminator 12 is from bottom to top, upstream to downstream).

21. The system of claim 9, wherein said control device is further operable to receive the measurement result of said measuring device as an input signal and to output a control signal to said tension applying device to feed-back control said tension applying device (e.g., col. 3 line 58 – col. 4 line 10).

22. The system of claim 21, wherein said control device comprises a sequencer unit that receives the input signal from said measuring device regarding the moving length amount of the material over time and outputs a digital control signal obtained by comparing the input signal with the set value and a D/A converter that converts the digital control signal into an analog control signal as the control signal output to said tension applying device (e.g., col. 3 line 58 – col. 4 line 10).

23. The system of claim 9, wherein said tension applying device (e.g., Fig. 1 #32) is located at a position that is upstream of said material processing device (e.g., Fig. 1 #12) and said measuring device (e.g., Fig. 1 #30, EN: In Fig. 1, the processing flow in the laminator 12 is from bottom to top, upstream to downstream).

Nordgren does not explicitly disclose that the tension is “increased” or “decreased” depending on whether or not the moving length amount of the material over time “exceeds” or “falls below” the set value. Nordgren does however disclose that the web tension is adjusted or controlled in order to give a zero error on the register length

Art Unit: 2125

measurement made. It is inherent that the register length error (e.g., col. 3 lines 59-66) disclosed by Nordgren must be either greater than or less than the register-length set-point disclosed by Nordgren (e.g., col. 3 line 31). And, if the register length measurement of Nordgren is greater than the set-point, it is inherent that the tension would have to be increased in order to achieve the zero register error disclosed by Nordgren. Likewise, if the register length measurement of Nordgren is less than the set-point, it is inherent that the tension would have to be decreased in order to achieve the zero register error. Since, Nordgren doesn't explicitly disclose that the error can **only** be greater than or less than the set-point, Nordgren thus implies that the error can be **either** greater than, or less than, the set-point. And, using the reasoning above, Nordgren teaches the features of Applicant's claim 9.

Alternatively, although Nordgren does not explicitly disclose the aforementioned feature, one of ordinary skill in the art would recognize that the error disclosed by Nordgren could be either less than or greater than the set point. And one of ordinary skill in the art would recognize that if the register length measurement of Nordgren is greater than the set-point, then the tension would have to be increased in order to achieve the zero register error disclosed by Nordgren. Likewise, one of ordinary skill in the art would recognize that if the register length measurement of Nordgren is less than the set-point, then the tension would have to be decreased in order to achieve the zero register error. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nordgren in the above fashion to realize the features of Applicant's claim 9.

5. Claims 17-19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable of Nordgren as applied to claim 9 above, and further in view of Kobayashi et al. U.S. Patent No. 5,819,575. Nordgren does not disclose that the processing device is a corrugated fin processing device operable to corrugate the material; wherein said corrugated fin material processing device comprises corrugate cutters; wherein said corrugated fin processing device comprises a pair of cutters operable to separate the material into two rows in the direction of movement of the material.

However, Kobayashi et al. discloses a method of manufacturing a corrugated fin of an automotive heat exchanger comprising corrugated fin processing device operable to corrugate material; wherein said corrugated fin material processing device comprises corrugate cutters; wherein said corrugated fin processing device comprises a pair of cutters operable to separate the material into two rows in the direction of movement of the material (e.g., col. 3 lines 15-55). Kobayashi et al. also discloses a device for controlling the tension of the material in the processing line.

Nordgren and Kobayashi et al. are analogous art since they are both concerned with controlling tension of a material in a continuous sheet processing line. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nordgren with Kobayashi since Kobayashi teaches that that it is desirable to control tension in a corrugated fin processing line in order to maintain a constant height of the corrugated fin.

Art Unit: 2125

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nordgren as applied to claim 9 above, and further in view of Kataoka U.S. Patent No. 4,775,086. Nordgren does not disclose that said tension applying device comprises a pulley, engaging the material upstream of the measuring device, that is operable to vary an amount of force applied to the material. However, Kataoka discloses a tension control apparatus comprising a pulley (e.g., Fig. 11 #23), engaging a material upstream of a measuring device (e.g., Fig. 11 #27), that is operable to vary an amount of force applied to the material. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nordgren with Kataoka since Kataoka teaches that a dancer roller, or pulley, ensures that when the tension in the running film or sheet varies due to an external disturbance, the dancer roller (pulley) is displaced to follow and absorb the tension variations. Thus, accurate take-up tension can be ensured (e.g., col. 4 lines 6-10).

Allowable Subject Matter

7. Claims 11, 12, 14, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art obtained by the examiner fails to teach or fairly suggest a balance weight that moves on an arm in two directions along the arm by control of a control

Art Unit: 2125

device, in combination with the remaining features and elements of the claimed invention.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

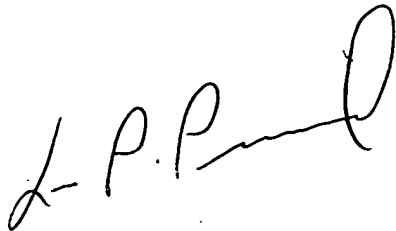
Art Unit: 2125

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ryan A. Jarrett
Examiner
Art Unit 2125

2/12/05

A handwritten signature in black ink, appearing to read 'L. P. Picard', with a stylized flourish at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100